3.1.18 Mitigation Measures To Minimize Significant Effects

The following mitigation measures reduce impacts of the proposed TMC mining activity. Many of the mitigation measures are part of the Project and are included here to clarify mitigation of impacts.

3.1.18.1 Geotechnical

The following Project designs and specifications are summarized here as mitigation measures for potential slope stability impacts.

G1. Slope stability in the NFSA will be obtained by constructing 2:1 (horizontal to vertical) slopes at 75 percent relative compaction and compacting the outer 30 feet of material on the slope to 80 percent relative compaction. To mitigate the potential for surficial instability, the outer 10 feet of the proposed fill slopes will be constructed with a soil material having minimum strength characteristics of cohesion equal to 175 psf and angle of internal friction equal to 35 degrees or some other alternative soil strength combination that will result in the minimum factor of safety of 1.5.

G2. Fill slope stability in the Cut 3 fill area will be obtained by constructing 2:1 (horizontal to vertical) slopes and by achieving 75 percent relative compaction. Benches will be constructed at 15-foot-wide and 90-foot vertical intervals. To mitigate the potential for surficial instability, the outer 10 feet of the proposed fill slopes will be constructed with a soil material having minimum strength characteristics of cohesion equal to 175 psf and angle of internal friction equal to 35 degrees or some other alternative soil strength combination that will result in the minimum factor of safety of 1.5.

G3. Ultimately, the former gravel pit high walls will be altered to a 1.15:1 (horizontal to vertical) slope using 15-foot-wide benches at 100-foot vertical intervals. The bottom of the pit walls on the west, north, and northeast sides will be buttressed with fill to provide a buffer zone and increase slope stability.

G4. To achieve suitable factors of safety for cut slopes, the following mitigation is presented. For the cut slopes at the northeast portion of the mining area, overall inclinations of the slopes will be flattened from 1.15:1 to 1.25:1. For the cut slopes at the far northeast portion of the mining area, the overall inclinations of the slopes will be flattened from 1.15:1 to 1.30:1.

G5. Interim mining cuts will be constructed using 35-foot-wide benches over 35-foot elevational changes during the removal of the native material while controlling surface runoff and erosion.

In addition to the above measures, the following standard conditions of approval will be incorporated to ensure that there will be no significant geotechnical impacts:

G6. The mining activity will be regularly monitored throughout the life of the Project by a California registered civil engineer or engineering geologist, and periodic testing of the fill materials will be performed to verify strength parameters of the fill soil and relative compaction. The mine operator will maintain all records of correspondence, reports, and designs provided by the registered professional.

G7. Proposed mining and reclamation specifications and procedures will be in accordance with the County of Los Angeles Planning and Zoning Code, Title 22, Part 9, Chapter 22.56 surface mining permits.

3.1.18.2 Water Resources

Local Impacts

No impacts were identified relative to local water users. Water use in the Project vicinity is limited to small domestic use and will not be impacted. However, TMC will abide by all conditions of its SWRCB permit to appropriate available water from the Santa Clara River. Furthermore, TMC will implement the Water Shortage Contingency Plan (WSCP) submitted to the SWRCB, Division of Water Rights in the *Answer to Vested Rights Protests vs. Application No. 29967* (West Coast Environmental 1994) presented in Appendix C2 of this EIS.

A significant impact on local sensitive ecological habitats is possible during dry months of dry years if pumping of river underflow continues unabated. TMC has proposed necessary mitigation measures including a Habitat Protection Plan and the reduction or cessation of pumping, if necessary.

WR1. TMC will conduct a monitoring program for water resources and sensitive ecological habitats in the immediate vicinity of the Project. The Habitat Protection Plan will include the following components:

a. Four existing monitoring wells, as shown on Figure 3.1.2-5, will be maintained to monitor water levels of the Santa Clara River underflow during the life of the Project.

b. Surface flows of the Santa Clara River will be monitored during the life of the Project at a location(s) to be determined in conjunction with Responsible Agencies prior to the start of mining.

c. The riparian and aquatic habitat in the immediate vicinity of the site will be monitored as detailed in the habitat protection plan presented in Appendix F6.

d. The Habitat Protection Plan contains action levels that will trigger adjustments to mining operations to reduce Project water consumption to avoid significant degradation of the ecologically sensitive habitats attributable to the Project. Operational adjustments will include one or more of the following:

- seasonal sand and gravel production adjustments through stockpiling materials,
- seasonal management of concrete production,
- stockpiling fines temporarily to eliminate water used in the compaction process,
- increased use of dust palliatives for dust control,
- temporary reduction or cessation of pumping of river underflows, and
- cessation of mining operations, if necessary.

Regional Impacts

No significant impacts on regional water resources were identified; therefore, no mitigation measures are required.

Geologic Impacts

No geologic impacts due to use of water resources, such as liquefaction, soil settlement, or ground swelling, will occur, and no mitigation measures are required.

3.1.18.3 Flood

The following mitigation measures are incorporated as part of the Project design:

F1. The Project will include construction of seven desilting/debris basins according to the specifications of the Drainage Concept Plan to control surface runoff and sedimentation. During final design, the Applicant shall submit detailed plans for the debris basins including a static and seismic slope study that analyzes all proposed debris basin slopes greater than 3:1 gradient. Plans shall be approved by the DPW prior to the commencement of grading work on the project.

F2. A 45-inch culvert will be installed under Soledad Canyon Road to accommodate existing runoff conditions as well as conditions for the Project. Construction of desilting/debris Basin 2E and the addition of the 45-inch-diameter culvert under Soledad Canyon Road are Project design features that result in beneficial impacts by correcting inadequate existing conditions.

F3. Proper maintenance and cleaning of erosion control facilities and desilting/debris basins will be conducted as part of the Project operations. Inspection frequencies and maintenance procedures are required by the SWPPP (see Appendix B1). These procedures are detailed in the Storm Water Management Practices section of that plan.

The following provision will be added to the SWPPP: stormwater desilting/debris basins will be inspected after every storm event and every 24 hours during prolonged storm events. Prevention of spills of hazardous materials, such as petroleum fuels and products, is addressed in the SPCCP plan (see Appendix B2).

Implementation of the Project plans and mitigation measures will result in beneficial rather than adverse impacts.

3.1.18.4 Water Quality

Mitigation measures have been developed as part of the Project to avoid and minimize impacts of the Project on water quality.

WQ1. The proposed Drainage Concept Plan will be implemented by TMC. The drainage concept establishes a drainage plan and facility requirements for the project and provides the design parameters for the location, sizing, and scheduling of the erosion control facilities to handle the runoff, sedimentation, and debris flows generated by the Project. The plan addresses drainage during the premining road construction and grading phase, during the mining operation, and after completion of mining.

WQ2. TMC will implement provisions of the SWPPP. The SWPPP (1) identifies potential sources of pollutants that will adversely affect stormwater discharges from the site and (2) describes in detail specific best management practices to reduce the levels of pollutants in stormwater discharges. Key elements of the SWPPP include a preventive maintenance program for vehicles and the stormwater conveyance systems, a system of good housekeeping measures to control contamination of runoff, and a system of desilting/debris basins designed for settling out excess suspended sediments in the site runoff, thus controlling downstream sedimentation.

WQ3. TMC will implement provisions of the SPCCP. Use of secondarily contained ASTs to hold dust palliative, diesel fuel, waste oil, fresh motor oil, and hydraulic fluid onsite will minimize exposure of these products to surface water and groundwater. As previously stated, the risk of undetected leaks is much smaller with ASTs than with USTs. Additionally, the SPCCP identifies procedures and controls that will be implemented over the life of the Project to prevent and minimize the release of chemicals into the area's surface waters. The SPCCP's main focus is storage of diesel, hydraulic oil, motor oil, and waste oil in all ASTs having capacities of greater than 55 gallons (no USTs are planned for the facility). However, areas of the site designated for storage of smaller volumes of potentially hazardous materials (e.g., solvents and cleaners) are also covered in the SPCCP. General compliance requirements relating to facility operations that are addressed in the SPCCP include spill response, leaks and malfunctions, rainwater accumulation, inspection, changes, training, and recordkeeping.

WQ4. The proposed onsite sanitary septic tank leach field will be built following County review and approval of the location to ensure that there will be no possible impact on water

quality. If an appropriate onsite location for the leach field is not found because of the presence of impermeable soils, fractured rock, or other geotechnical limitations, TMC will install a septic tank onsite that is designed for routine pumpout.

WQ5. Desilting/debris basins will not be removed until disturbed areas have been successfully revegetated.

3.1.18.5 Noise and Vibration

Onsite Measures

The potentially significant impacts related to blasting operations required to loosen the conglomerate rock formations will be mitigated as follows:

N1. The Applicant will conduct blasting operations in general conformance with the federal OSMRE regulations as stated in 30 CFR, Chapter VII, Sections 816.61 through 816.68, and other applicable regulations. Conformance shall be demonstrated through preparation of a detailed Blasting Plan identifying project compliance with the stated requirements (as minimum standards) and through monitoring of blasting activities. The Blasting Plan shall be reviewed and approved by the County prior to conducting any blasting onsite. The Blasting Plan shall provide for the following:

a. Submission and approval by the County of the specific blast design prior to blasting, where such blasting will occur within 1,000 feet of habitable buildings outside the permit area.

b. Conducting a public awareness program, including notification of all residents within ½ mile of any part of the permit area of the opportunity to request a preblast survey. The notification is to be done at least 30 days prior to initiation of blasting. A TMC information officer who can be contacted by telephone for information will be designated.

c. Publication of the anticipated blasting schedule at least 10 days prior to the beginning of the blasting program via a newspaper of general circulation in the Project area and by direct mail to residents within ½ mile, and republication at least every 12 months or whenever substantive changes to the schedule are to be implemented.

d. Placement of warning signs and access controls to blast areas.

e. Incorporation of the provision that blasting shall be conducted to prevent injury to persons, damage to public or private property outside the permit area, adverse impacts on any underground mine, and change in course, channel, or availability of surface or groundwater outside of the permit area.

f. Conducting blasting so that the maximum air overpressure shall not exceed 133 dB (2-Hz minimum) measured directly between the nearest occupied residence and the blast site (ref. U.S. Bureau of Mines Report of Investigations 8485 (1980) "Structure Response and Damage Produced by Airblast from Surface Mining").

g. Conducting blasting so that the peak particle velocity generated from any blast shall not exceed 0.5 in/sec for vibration frequencies below 40 Hz, and 2.0 in/sec for vibration frequencies of 40 Hz or more, measured directly between the nearest residence and the blast site (U.S. Bureau of Mines 1980b). Other methods of determining acceptable particle vibration such as the use of scaled-distance equations shall be allowed subject to approval by the County.

h. Conducting periodic monitoring offsite to ensure compliance with airblast and vibration standards and provide a seismograph record of each blast. Monitoring shall be conducted at a representative residential receptor and at a representative location adjacent to the Santa Clara River riparian habitat.

i. Controlling flyrock at the blast site in accordance with OSMRE regulations. That is, flyrock traveling in the air or along the ground shall not be cast from the blasting site.

j. Maintain records as specified by the County of all blasts for a minimum 3-year period.

k. Identification of conditions when blasting will be curtailed, including atmospheric conditions that are conducive to transmission and amplification of noise offsite, and/or conditions conducive to the transport of high levels of fugitive dust emissions offsite. The Blasting Plan will identify such conditions where blasting is to be curtailed by the Applicant. The program shall also specify the candidate control measures specifically aimed at reducing blasting fugitive emissions.

l. Identification of other parameters affecting blasting such as the regulatory requirement that blasting be conducted during daylight hours. Blasting shall be prohibited on Sundays and specified holidays.

m. Implementing specific measures to prevent nitrate contamination of surface and groundwater due to use of ANFO.

Potential noise impacts if the Bee Canyon Mobile Home Park is constructed will be mitigated as follows:

N2. Based on the proposed lot configurations of the proposed Bee Canyon Mobile Home Park, trailers located west of the westernmost boundary of the TMC Project may be subject to significant noise during Mining Cut 3 operations. If the Bee Canyon Mobile Home Park is constructed, the noise impact will be reduced to less than significant by constructing berms or cut slopes to shield lots from direct noise exposure as confirmed

through acoustic evaluation (based on final grading contours of the Bee Canyon project). It is anticipated that these measures would be applicable only if the Bee Canyon Park were actually constructed. If a soundwall is to be constructed, a detailed study will be conducted by qualified personnel in the fields of structural engineering, environmental noise assessment, and architectural acoustics.

Offsite Measures

A significant impact has been identified because of Project vehicle-generated noise at the River's End Trailer Park. In accordance with the noise model, the grade separation should provide an attenuation of 12 dBA, and this would reduce the noise generated along Soledad Canyon Road to a level less than specified by the noise ordinance. However, an increase of 5 dBA CNEL is predicted and will be clearly audible to the residents in the park. At the proposed Bee Canyon Mobile Home Park, two lots are potentially within the 65 CNEL contour of Soledad Canyon Road.

N3. At the River's End Trailer Park and the Bee Canyon Mobile Home Park, if constructed, soundwalls or berms will be constructed adjacent to affected lots to mitigate offsite truck transportation noise.

If a soundwall is constructed, its placement and dimensions will depend on the materials used, the height differential between the roadway and the receptors, the grade and curvature of the road next to the receptors, and the actual positions of the receptors at the bottom of the slope. Prior to wall construction, a more thorough study will be conducted by qualified personnel in the fields of structural engineering, environmental noise assessment, and architectural acoustics.

Another means of reducing truck-generated noise at the River's End Trailer Park would be to reroute haul trucks along Agua Dulce Road. This mitigation was rejected for the reasons presented below.

Haul trucks proceeding along Agua Dulce Road would create a noise level roughly equivalent to that predicted along Soledad Canyon Road. Several residents located along Agua Dulce Road are situated at the same elevation or higher than the road with a clear view of the road. Furthermore, several of these residents are located closer to the road than those situated in the trailer park. Finally, because the hills rise on either side of the road, the noise is contained in an "amphitheater-like setting." This can reflect noise to the receptors, thus elevating noise levels by as much as 3 dBA above that predicted by the noise model.

This being the case, these residents would most certainly experience an increase in the ambient noise level that would exceed the 5-dBA criterion as well as the 65-dBA County ordinance level.

Due to the grade separation, residents at the River's End Trailer Park would need a relatively low soundwall to block their line of sight and mitigate vehicle-generated noise. Residents located along Agua Dulce Road are situated higher than the road and would need a much higher wall to block the line of sight and vehicle-generated noise.

Furthermore, the residents at the trailer park are clustered together at a bend in the road and would require a relatively short wall (in length) to provide the necessary attenuation. Along Agua Dulce Road, the residents are scattered, thus necessitating construction of a separate wall for each impacted dwelling.

3.1.18.6 Public Services

The proposed Mining Plan has been designed to mitigate potential impacts on public services. These Project measures include the following:

PS1. Fire prevention training for all employees will be conducted based on Cal-OSHA standards, and fire prevention equipment will be available onsite.

PS2. No explosives will be stored onsite.

PS3. The water storage facilities onsite will be accessible to fire equipment by an all weather road capable of supporting 50,000 pounds. The road width should be a minimum of 26 feet within 25 feet of either side of the tank connection.

PS4. The water storage tanks will have a 4 inch and 2½ inch outlet with National Standard threads. These outlets will be no more than 6 feet from the road.

PS5. The minimum road width will be 20 feet throughout the mining operation and must reach to within 150 feet of all buildings and equipment.

PS6. Grades on gravel roads will not exceed 10%. If they are paved, then a 15% grade is acceptable.

PS7. Turnarounds will be provided on any road that exceeds 300 feet or one every ¼ mile to ½ mile. The minimum radius is 32 feet.

PS8. A minimum 200-foot fuel break will be provided around any mining operation.

3.1.18.7 Air Quality

Air quality mitigation is presented for construction to minimize exhaust emissions and fugitive dust. Mitigation is presented for operations for exhaust and dust emissions. The effectiveness of the mitigation is presented in Tables 3.1.7-11 through 3.1.7-15 in Section 3.1.7.

Construction

Exhaust Emissions

Site construction will create exhaust pollutants from onsite earth movement and equipment bringing building materials onsite. A comparison between project emissions and the levels considered by the SCAQMD to be potentially significant shows that NO_2 emissions may exceed the SCAQMD quarterly threshold criterion and mitigation is necessary.

AQ1a. Mitigation for both heavy equipment and vehicle travel is limited. However, the following will be employed to reduce these emissions to the maximum extent feasible:

1. maintain equipment in tune per manufacturer's specifications;
2. use catalytic converters on gasoline-powered equipment;
3. retard diesel engine timing by 4 degrees;
4. install high-pressure fuel injectors;
5. use reformulated, low-emission diesel fuel;
6. substitute electric and gasoline-powered equipment for diesel-powered equipment where feasible;
7. where applicable, do not leave equipment idling for prolonged periods; and
8. curtail (cease or reduce) construction during periods of high ambient pollutant concentrations (i.e., Stage II smog alerts).
9. retard fuel injection timing, resulting in NO_X reduction of 30 percent (>40 percent in AP-42);
10. use high-pressure fuel injectors resulting in PM-10 reduction in excess of 80 percent with a reduction in hydrocarbons; and
11. use low-emission fuels resulting in unquantified reductions in all emissions.

Fugitive Dust

Dust from physical site disturbance, material deliveries, employee commuting, and wind erosion during high-wind episodes may create a visual and soiling nuisance beyond the property line.

AQ1b. Although dust impacts are not expected to be significant during the construction phase, Project design standard measures will be implemented to control fugitive dust emissions during construction as required by SCAQMD Rules 402 and 403. These rules contain

a nuisance provision that gives an SCAQMD inspector wide latitude to enforce dust abatement, particularly in the event of a nuisance complaint. Because of the extreme distances from sensitive receptors, no nuisance complaints are anticipated. Still, typical abatement measures, including daily watering of active construction areas and all traveled dirt roads to minimize dust lofting from vehicular disturbance, will be used.

The Project is subject to this Rule 403 and will prepare a fugitive dust plan that will be reviewed and approved by the SCAQMD on an annual basis. The Plan will include Best Available Control Measures (BACM) and the regulation prohibits both visible dust and PM-10 concentrations in excess 50 $\mu g/m^3$ at the Project boundary. The Project will comply with the Requirements of Rule 403.

Operations

AQ1c. **Exhaust Emissions**

In addition to the mitigation measures presented for onsite operations, TMC has made a commitment to reduce traffic congestion by providing the transit improvements as stated in Section 3.1.7.1. Because most of the trucks will be independently owned and operated, the Applicant has little control over these emissions. Still, the Applicant does have some control over these emissions while the trucks are onsite and in the selection of the owner-operators. Applicable mitigation then includes the following:

1. Trucking will be performed on a 24-hour-per-day basis. This will reduce emissions by allowing trucks to operate during nonpeak hours, increasing truck speeds, and eliminating prolonged idling in traffic, thereby decreasing truck emissions.

2. When operating onsite, trucks will not be left idling for prolonged periods.

3. Applicant-operated trucks that are observed to emit excessive amounts of smoke (particulate matter) will either be tuned up or repaired, as applicable. Private owner-operators will be warned that, if their trucks emit excessive amounts of smoke, they will not be allowed future access to the facility.

4. Where applicable, high-pressure fuel injector nozzles will be used, and diesel engine timing will be retarded by 4 degrees. (This includes both trucks and heavy equipment.)

The inclusion of these mitigation measures will reduce emissions to the maximum extent feasible but is not anticipated to reduce them to a level of nonsignificance.

AQ2. **Dust Emissions**

PM-10 dust emissions are also anticipated to create a significant impact for both Phases 1 and 2.

Mitigation measures and control efficiencies for each dust-generating operation are presented in the following discussion. Tables 3.1.7-14 and 3.1.7-15 in Section 3.1.7 list the PM-10 unmitigated emissions, assumed control efficiency, and mitigated emissions for Phase 1 and 2 operations, respectively.

1. Conveyor Systems

The product conveyor systems include the use of covered transfer points controlled by negative pressure vented to a bag house augmented by water or surfactant spray in the main plant area. Resultant fugitive dust emissions are projected to be roughly equivalent to those produced by covered conveyors, and no further mitigation is warranted.

2. Rock and Sand Processing

As mentioned previously, in accordance with the SCAQMD permitting for the site, all permitted dust-producing equipment involved in rock crushing and conveyance must be vented to filters or kept moist using spray bars.

3. Onsite Truck Travel

Mitigation includes twice-daily watering followed by immediate broom-truck sweeping of paved roads to control the fugitive dust kicked up by the vehicles' tires. The control efficiency is dependent on the ability to remove silt from the road, and application of the above measures is conservatively estimated to result in a 90-percent control efficiency.

In addition to travel over paved surfaces, onsite travel will include material movements over unpaved surfaces because of travel on unpaved roads situated between the paved access road and the aggregate facility. For these unpaved roads, mitigation includes regular application of a chemical dust suppressant with a demonstrated control efficiency in excess of 80 percent.

4. Offsite Truck Travel

The importance of keeping both paved and unpaved roads dust-free is two-fold. First, it reduces onsite fugitive dust emissions by reducing the volume of dust raised by vehicle travel. Second, it keeps dust from being carried out on to Soledad Canyon Road, thereby assuring compliance with both SCAQMD Rules 402 and 403 as well as Assembly Bill No. 3220, Clapton 1486.

Although the dust emissions for offsite truck travel were not included with the onsite emissions inventory, dust blowing from the offsite transport of aggregate during both Phases 1 and 2 adds to the total PM-10 dust loading. Mitigation includes using wet spray during truck loading of sand and broom-truck sweeping of the roadway as trucks leave the site. Furthermore, in accordance with Assembly Bill No. 3220, Clapton

1486, aggregate materials shall only be carried in the cargo area of a vehicle. The cargo area shall not contain any holes, cracks, or openings through which the materials may escape, regardless of the degree to which the vehicle is loaded. Additionally, all trucks shall be equipped with the following:

a. properly functioning seals on any openings used to empty the load, including, but not limited to, bottom-dump release gates and tailgates;

b. splash flaps behind every tire, or set of tires, regardless of position on the truck, truck tractor, or trailer;

c. center flaps at a location to the rear of each bottom-dump release gate or trucks or trailers equipped with bottom-dump release gates. The top of the center flap shall not be lower than the adjacent tires or set of tires, and the bottom of the center flap shall extend to within 5 inches of the pavement surface;

d. fenders that completely cover the tops of the tires not already covered by the truck, truck tractor, or trailer body;

e. complete enclosures on all vertical sides of the cargo area, including, but not limited to, tailgates;

f. shed boards designed to prevent aggregate materials from being deposited on the vehicle body during top loading; and

g. covers to keep transported materials from blowing except that vehicles transporting aggregate materials shall not be required to cover their loads if the load where it contacts the sides, front, and back of the cargo container area remains 6 inches from the upper edge of the container area, and the load, at its peak, does not extend above any part of the upper edge of the cargo container area.

5. North Fines Storage Area Activity

Fugitive emissions from equipment activity in this area will be controlled with water spray with a control efficiency in excess of 50 percent. Implementation of mitigation measure AQ3 will eliminate the use of scrapers in the NFSA.

6. Wind Erosion

While inactive areas will be controlled by dust suppressants with an efficiency in excess of 80 percent, by Project design, active areas will receive water spray with an efficiency of at least 50 percent. Because more area will be inactive than active at any one time, an assumed 75-percent control efficiency is applied to the site as a whole.

AQ3. Conveyor to North Fines Storage Area (NFSA)

To further reduce PM-10 emissions, TMC shall use a semi-stationary "fines" conveyor system to move fines from the mobile crusher, located in the active mining area, directly to the NFSA. This fines conveyor shall extend along the haul road to the NFSA. A mobile conveyor shall be located in the NFSA and will tie in to this stationary fines conveyor thereby allowing fines to be distributed throughout the NFSA without the need for subsequent trucking of this material.

The mobile crusher has the ability to remove almost all of the fines during the crushing procedure. This crusher shall be equipped with two separate mobile conveyor systems. One of these mobile conveyor systems will transport fines removed in the initial crushing process to the main (stationary) fines conveyor and subsequently to the NFSA. The other mobile conveyor will transport excavation products to the main product conveyor which takes it to the rock plant for further processing.

Not all of the fines are removed at the mobile crusher and the rock plant also produces a modicum of fines during the processing procedure. These fines will be hauled by dump truck from the rock plant back to the stationary fines conveyor where it meets the haul route. From this point the fines will then travel along the stationary fines conveyor to the NFSA. Transfer points on the conveyor will be controlled by wet suppression.

AQ4. EPA/CARB Certified Engines

This mitigation measure incorporates the use of EPA/CARB certified engines where applicable for the Project. Current EPA/CARB emission standards for nonroad engines are shown below.

Current EPA/CARB Emission Standards for Non-road Engines

Rated Power	Year	CO (g/hp-hr)	ROG (g/hp-hr)	NOx (g/hp-hr)	PM-10 (g/hp-hr)
175≤ hp ≤ 750	1996+	8.5	1.0	6.9	0.4
175≤ hp ≤ 750	2001+	8.5	1.0	5.8	0.16
hp = 751+	2000+	8.5	1.0	6.9	0.4

For equipment falling in the appropriate horsepower ranges, the Project will use equipment which meets these standards. For Phase 1, the minimum standards which would apply would be the 1996 standards for 175-750 hp engines and the 2000 standards for equipment rated >750 hp. Additional equipment purchased for Phase 2 of the Project will meet the year 2001 standards for 175-750 hp.

Equipment built to meet EPA/CARB certified engine standards incorporates a number of combustion system improvements. Therefore mitigation measure AQ1 involving retarding diesel engine timing by 4 degrees and installing high-pressure fuel injectors would not be applicable to this equipment.

AQ5. Diesel Exhaust Particulate Controls

No specific significance threshold has been established for diesel exhaust particulates emissions from mobile sources. The Project Applicant, however, has used the exposure risk of 1 in 100,000 set forth in California Proposition 65 as a basis for developing mitigation designed to minimize exposure to diesel exhaust particulate emissions. The 1 in 100,000 exposure risk level in Proposition 65 provides a threshold for exposure to toxics below which no "significant risk" is posed, and therefore the use of this threshold as a standard for this mitigation measure reflects general state law concerning exposure to toxics.

The Project Applicant now proposes to incorporate the use of particulate filters or equivalent technology to ensure that diesel exhaust particulate emissions from mobile sources at the Project site will be reduced to a level which results in an exposure risk of less than 1 in 100,000 for residential receptors.

With the implementation of this mitigation measure, the resulting residual emissions for the Project are shown in revised Tables E2-1 and E2-2, in Appendix E2. Multiplying the daily emissions times the number of operating days per year for each Phase results in annual emissions of diesel particulates of less than 1,735 lbs/year for Phase 1 and Phase 2. Phase 1 would have emissions of diesel particulates of 1,528 lbs/year. Phase 2 would have emissions of diesel particulates of 1,431 lbs/year. At this level of annual emissions, the exposure risk for the Project related to diesel particulate emissions will be less than 1 in 100,000, as shown in the analysis in Appendix E7.

Based on currently available technology, TMC proposes to install particulate filters that achieve 95 percent or greater reduction in diesel exhaust particulates on the following equipment.

Phase 1	Phase 2
13 cu. yd. Pit Loader (2) 100 ton Haul Trucks Water Truck	(2) 13 cu. yd. Pit Loaders (4) 100 ton Haul Trucks Water Truck (2) Front End Loaders 35-ton Dump Truck

Since diesel exhaust has recently begun to receive a high degree of attention, significant advances in control technology for heavy equipment are anticipated in the future. As these advances take place, TMC will review new technologies for their feasibility and applicability. Alternative methods for achieving equivalent or better diesel particulate reductions may be implemented in place of particulate filters. These alternatives may include:

- Conversion of some equipment to alternative or dual-fuel technology, if this becomes feasible.
- Purchasing lower emitting equipment, if it becomes available when new purchases are being considered.
- Use of low sulfur diesel, if it becomes available.

3.1.18.8 Biota

B1. The impacts associated with the loss of natural vegetation communities and wildlife habitat in the Project area are less than significant with implementation of the Reclamation Plan. The Reclamation Plan (see Section 2.2) provides for concurrent revegetation of the site with species presently found onsite. The Reclamation Plan outlines revegetation specifications and establishes performance criteria for success of revegetation of the site.

B2. Significant impacts on the sensitive plant species (Peirson's morning glory, slender mariposa lily, Plummer's mariposa lily, and club-haired mariposa lily) in the northwestern region of the Project site due to fines placement and potentially from placement of desilting/debris Basins B and C will be mitigated by the following actions. Seeds of these sensitive species shall be collected from impacted populations as fines storage proceeds, and the seeds shall be incorporated into the Revegetation Plan for the site. These plant species, especially Peirson's morning glory, are found in areas that have experienced disturbance such as fire or clearing. Therefore, incorporating the seed of these species into the revegetation plan for the site will provide a means to salvage the populations, and impacts on these species will be reduced to less-than-significant levels.

B3. Potential significant impact on the coastal western whiptail will be reduced to nonsignificant with the implementation of the Reclamation Plan. This species is often associated with disturbed sites, and implementation of the Project would not result in a permanent loss of its habitat.

B4. Impacts from stray lighting from facilities and equipment yards will be reduced with the use of low-intensity lighting and direction shields. This will reduce the level of impact to less than significant.

B5. Potential impacts on the Santa Clara River biological resources from uncontrolled surface runoff from the site will be mitigated through implementation of project design measures including construction and maintenance of seven desilting/debris basins and implementation of the Project SWPPP and SPCCP.

B6. Potential impacts on riparian habitat and proposed critical habitat of the unarmored threespine stickleback and regionally sensitive riparian vegetation from uncontrolled pumping of underflows of the Santa Clara River will be mitigated through implementation of the Habitat Protection Plan previously described in water resources (Section 3.1.2.3). The monitoring plan will be a multifaceted program of water resource monitoring and habitat monitoring of the permanent flowing stickleback habitat downstream from the site, as well as seasonal habitat adjacent to and downstream of the site. The habitat protection program is presented in detail in Appendix F6. The monitoring program will contain action levels based on habitat requirements for the unarmored threespine stickleback and riparian vegetation. These action levels will trigger adjustments to mining operations to reduce project water consumption, including the temporary cessation of pumping if necessary. In response to below-seasonal average rainfall, mining operations will be adjusted during the dry season to reduce water consumption. Operational adjustments will include one or more of the following:

- seasonal sand and gravel production adjustments,
- seasonal management of concrete production,
- temporary stockpiling of fines,
- increased use of dust palliatives,
- temporary reduction or cessation of pumping of river underflows, and
- cessation of mining operations, if necessary.

3.1.18.9 Cultural Resources

CR1. Under current construction plans, the historic archaeological site (LAN-1847H) will be avoided. However, to ensure that the site is not disturbed by construction activities, the site will be fenced under the direction of an archaeological monitor. With this measure, the site will be avoided and protected, which is a preferred mitigation measure.

CR2. If under future construction plans the site cannot be avoided and protected, an archaeological test program that includes archival research will be necessary to determine the site's importance. If the site is found to be important, a data recovery program will be implemented to mitigate impacts on a less-than-significant level.

3.1.18.10 Visual Qualities

The discussion below is focused on impacts on those viewshed areas discussed in Section 3.1.10. The following mitigation measures for the purposes of the discussion assume that revegetation is successful:

VQ1. Reclamation and revegetation will occur starting every growing season after mining activity has ceased in particular areas.

VQ2. During the final phase of reclamation, the roads will be resloped to conform with the surrounding topography.

VQ3. Reclamation of the NFSA will include grouping of revegetation to mimic existing topography and contouring to add dimension to the filled slopes.

VQ4. The Project will incorporate modern lighting systems that direct lights to specific areas and prevent stray lighting from spilling onto surrounding areas. No lighting will be directed upward.

3.1.18.11 Traffic

T1. The TMC Project does not generate significant Project-specific impacts. However, mitigation measures are required for the Soledad Canyon Road/Antelope Valley Freeway NB and SB ramps intersections, and the east approach of Soledad Canyon Road to the Bee Canyon Mobile Home Park's most easterly access road that were determined to have significant cumulative impacts. The roadway improvements and traffic signal controls required to achieve an acceptable LOS are presented in Table 3.1.11-15. These improvements will be required with or without the Project if the other related projects are developed as currently proposed. It is recommended that the intersection traffic volumes be monitored by County Public Works and Caltrans to determine if and when the mitigations are required.

Pursuant to Los Angeles County Traffic Impact Analysis Guidelines (DPW 1997), the Project's pro-rata percent share of the improvements is 9.1 percent to widen and modify the east approach of Soledad Canyon Road to provide two through lanes and one exclusive right-turn lane (add one westbound through lane). TMC's pro-rata shares of the traffic signal installation costs will be 6.5 percent of the cost for the intersection at SR-14 SB ramp/Soledad Canyon Road, and 9.1 percent of the cost at SR-14 NB ramp/Soledad Canyon Road. This share was determined based on the average of the a.m. and p.m. peak hour traffic volumes entering the interchange.

Table 3.1.11-15

MITIGATED INTERSECTION AND ROADWAY OPERATIONS

Intersection	Recommended Improvement	ICU / LOS
Soledad Cyn Rd/Antelope Vly SB Ramps	1. Restripe EB approach to include 1 through and 1 right lane. 2. Restripe WB approach to include 2 left and 1 through lane. 3. Signalize	Scenario 4 a.m. = 0.49 / A p.m. = 0.48 / A Scenario 7 a.m. = 0.55 / A p.m. = 0.55 / A
Soledad Cyn Rd/Antelope Vly NB Ramps and Soledad Canyon Road	1. Restripe EB approach to include 1 left and 1 through-right lane. 2. Restripe WB approach to include 1 through-left and 1 through-right lane. 3. Widen and modify east approach of Soledad Canyon Road. Provide 2 through lanes and 1 exclusive right-turn lane. 4. Signalize	Scenario 4 a.m. = 0.58 / A p.m. = 0.61 / B Scenario 7 a.m. = 0.66 / B p.m. = 0.67 / B

T2. Access to the site is proposed to be relocated from its existing location on Soledad Canyon Road to a point opposite of the existing access road for the C.A. Rasmussen mining operations. This would create a conventional four-way intersection on Soledad Canyon Road. The Project will provide one shared left-turn/through lane and one exclusive right-turn lane on the north approach and aligned with the existing access road for the C.A. Rasmussen facility. A left-turn lane and one shared through/right-turn lane on both the east and west approaches on Soledad Canyon Road will be provided. The westbound merging lane will be designed with adequate sight distance to the satisfaction of the County Department of Traffic and Lighting. All striping improvements will also be approved by the Department. Project proposed access improvements are shown on Figure 3.1.11-4. Some trees and shrubs to the east and west of the access road will be cleared, as necessary, to afford an unimpeded view of oncoming traffic.

If and when actual traffic conditions would warrant a traffic signal, TMC's pro-rata shares of the traffic signal installation costs for the Project access road/Soledad Canyon Road intersection will be 100 percent.

T3. The Applicant will contribute its fair share of costs to resurface the specific section(s) of pavement on Soledad Canyon Road. Paving shall be accomplished prior to the start of Phase 2 or at a later date as substantiated with a revised traffic index analysis which includes trucks generated by other projects.

3.1.18.12 Land Use

The TMC Project has no significant adverse land use impacts, and no mitigation measures are required. However, the following measure will be required as a standard condition of approval:

LU1. No mitigation measures are required because no significant adverse impacts were identified. However, as a condition of TMC's Project, the County will review and approve the proposed Reclamation Plan to reclaim mined lands to a usable condition. Under the proposed Reclamation Plan, at the conclusion of the Federal Contracts, TMC will reclaim the TMC's Project processing site and/or all inactive disturbed areas. Any areas not used for continued mining will be reclaimed and revegetated for use as open space. Upon approval of all applicable permits and plans, the Project will be deemed consistent with state, regional, and local land use policies and designations.

3.1.18.13 Public Health and Safety

The proposed Mining Plan has been designed to mitigate for potential impacts on public safety. These Project measures include the following:

PHS1. Detailed emergency plans are presented in the SPCCP and will be strictly followed.

PHS2. All MSHA and other applicable regulations will be strictly enforced.

PHS3. Public access will be restricted to reduce the potential for accidents. Mining areas will be fenced, and signs will be posted restricting access to Project site.

PHS4. The facility will be gated to control public access.

PHS5. Compliance with all regulations and requirements of OSHA, MSHA, and all applicable County 1994 Uniform Fire Codes will be observed.

PHS6. TMC will not remove topsoil on high wind days.